

Delta of River Shatt Al-Arab, South Iraq Sedimentological Study

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Abstract

The most controlling factors of the Delta of River Shatt Al-Arab are tidal currents and waves, in addition to the physiography of the area. The latter has the power to affect the character of the delta to take its distinguished shape in the area. The Delta is also affected by upstream suspended loads and the sediment resulted from continuous dredging of the river. This type of Delta is characterized by the longitudinal sediment bars, which are deposited in the channel near the river estuary. The only tributary of the River Shatt Al-Arab is the River Karun, and most of the former sediments is supplied from the latter. Recently, the flows of the River Karun have been regulated and its discharge has been reduced significantly. The discharge reduction has induced low sediment load to the River Shatt Al-Arab. The resulting phenomenon is that the sediment deposits in the main channel of the River upstream of the old channel. The fluctuation of the two river discharges would lead to the deposition of sediment load in the main channel of the River Shatt Al-Arab. Consequently the river channel has to move westward, whereas, in the past before the regulation, the high discharge of River Shatt Al-Arab had the power to push the sediment loads seaward, which was received by the secondary channels. Due to the tidal currents the final destination of the sediment load is either the Arabian Gulf or Khor Abdallah.